

## **PRACTICE PAPER - 1**

**Number of Questions: 50** 

1.	square number. How many such numbers are there?
	(a) 5 (b) 6 (c) 7 (d) 8
2.	The sum of the squares of 3 consecutive positive numbers is 365. The sum of the numbers is
	(a) 30 (b) 33 (c) 36 (d) 45
3.	The number of boys raised ₹ 400 for a relief fund, each boy giving as many 25 paise coin as there were boys. The number of boys was
	(a) 40 (b) 16 (c) 20 (d) 100
4.	The LCM of two numbers is 48. The numbers are in the ratio 2: 3. The sum of the numbers is
	(a) 28 (b) 32 (c) 40 (d) 64
5.	Which is the smallest number of five digits which is divided by 41?
	(a) 10045 (b) 10004 (c) 10041 (d) 10025

6.	Which of the following will come in place of both the questions marks (?) in the
	following equation?

$$\frac{128 \div 16 \times ? - 7 \times 2}{7^2 - 8 \times 6 + ?^2} = 1$$

- (a) 17
- (b) 16
- (c) 18
- (d) 3
- 7. If a number is decreased by 4 and divided by 6 the result is 8. What would be the result if 2 is subtracted from the number and then it is divided by 5?

  - (a)  $9\frac{2}{3}$ (b)  $10\frac{1}{5}$ (c)  $11\frac{2}{5}$
- 8. A man walking with 3/4 of his usual speed, reaches office 20 min late. His usual time
  - (a) 50 min
  - (b) 80 min
  - (c) 70 min
  - (d) 60 min
- 9. A cricketer has completed 14 innings and his average is 30 runs. How many runs must he make in his next innings so as to raise his average to 32?
  - (a) 60
  - (b) 55
  - (c) 65
  - (d) 50
- 10. The average of five numbers is 42 while the average of another eight numbers is 81. What is the combined average of all numbers together?
  - (a) 66
  - (b) 60.5
  - (c) 68.5
  - (d) 64

**11.** The value of  $\sqrt[6]{0.000729}$  is

- (a) 0.027
- (b) 0.3
- (c) 0.03
- (d) 0.09

**12.**  $1499 \times 1499 = ?$ 

- (a) 19501
- (b) 1900501
- (c) 2247001
- (d) 2204701

**13.** If  $\frac{a}{b} = \frac{2}{3}$  and  $\frac{b}{c} = \frac{4}{5}$ , then (a + b): (b + c) = ?

- (a) 3:4
- (b) 4:5
- (c) 5:9
- (d) 20:27

**14.** Ratio between the monthly incomes of A and B is 9: 8 and the ratio between their expenditures is 8: 7. If they save  $\stackrel{?}{\stackrel{?}{$\sim}}$  500 each, find A 's monthly income.

- (a) ₹ 3500
- (c) ₹ 4500
- (b) ₹ 4000
- (d) ₹ 5000

**15.** In an examination, 35% of the students passed and 455 failed. How many students appeared for the examination?

- (a) 490
- (b) 700
- (c) 1300
- (d) 845

16. A grocer buys 10 dozen of eggs at ₹18 per dozen from the wholesale market. Out of these, 10 eggs were found broken and had to be thrown away. At what price per egg should he sell them so as to make a profit of 10%, if he spent ₹24 on transportation?
<ul> <li>(a) ₹ 2.00</li> <li>(b) ₹ 2.25</li> <li>(c) ₹ 2.04</li> <li>(d) ₹ 2.50</li> </ul>
17. A businessman marks his goods at such price that after allowing a discount of 15%, he makes a profit of 20%. The marked price (in ₹) of an article having cost price ₹170 is
(a) 236 (b) 220 (c) 240 (d) 204
<b>18.</b> Arun invests ₹10250 at 4% per annum simple interest to obtain a total amount of ₹ 12710. For how many years did he invest the sum?
(a) 6 (b) 8 (c) 5 (d) 4
19. A man buys milk at a certain price per litre and after mixing it with water sells it again at the same price. How many of water does he mix in every litre of milk if he makes a profit of 25%?
(a) 250 mL (b) 200 mL (c) 150 mL (d) 30 mL
<b>20.</b> A can do a piece of work in 10 days and B can do the same piece of work in 20 days. They start the work together, but after 5 days A leaves. B will do the remaining piece of work in
(a) 5 days (b) 10 days (c) 6 days (d) 8 days

	(a) $\frac{5}{36}$ (b) 7.3 (c) 7.2 (d) 7
22.	Walking at the rate of 4 km an hour, a man covers a certain distance in 3 h45 min. If he covers the same distance on cycle, cycling at the rate of $16.5 \text{ km/h}$ , the time taken by him is
	(a) 55.45 min (b) 54.55 min (c) 55.44 min (d) 45.55 min
23.	If a man runs at 2 m/s, how many kilometres does he run in 1 h20 min?
	(a) 8.4 (b) 6.9 (c) 9.6 (d) 7.4
24.	Weight of a solid metal sphere of radius 4 cm is 4 kg. The weight of a hollow sphere made with same metal, whose outer diameter is 16 cm and inner diameter is 12 cm, is
	(a) 20.5 kg (b) 15.5 kg (c) 16.5 kg (d) 18.5 kg
25.	The radii of a sphere and a right circular cylinder are equal and their curved surface areas are also equal. The ratio of their volumes is
	(a) 3: 4 (b) 2: 3 (c) 3: 2 (d) 4: 3

**21.** A coach helper repairs a coach in 12 days. His technician completes the same job in 18 days. If both of them work together, in how many days would the job be completed?

- **26.** A rectangular plot 90 m  $\times$  50 m has two 10 m wide roads running in the middle of it, one parallel to the length and the other parallel to the breadth. Area of the plot used in roads is
  - (a) 1300sqm
  - (b) 1400sqm
  - (c) 1500sqm
  - (d) 1200sqm
- **27.** The solution of the system of linear equations 0.4x + 0.3y = 1.7 and 0.7x 0.2y = 0.8 is
  - (a) x = 3, y = 2
  - (b) x = 2, y = -3
  - (c) x = 2, y = 3
  - (d) None of these
- **28.** If  $\left(x + \frac{1}{x}\right)$ :  $\left(x \frac{1}{x}\right) = 5$ : 4, then the value of x is
  - (a) 0
  - (b)  $\pm 1$
  - $(c) \pm 2$
  - $(d) \pm 3$
- **29.** Evaluate  $\sqrt{129 + \sqrt{216 + \sqrt{68 + \sqrt{169}}}}$ 
  - (a) 13
  - (b) 15
  - (c) 9
  - (d) 12
- **30.** If the angles of a triangle are in the ratio of 1: 2: 3, then find the value of the largest angle.
  - (a) 30°
  - (b)  $60^{\circ}$
  - (c) 90°
  - (d)  $120^{\circ}$

**31.** An angle is 10° more than one-third of its complement. Find the greater angle. (a) 30° (b)  $60^{\circ}$ (c) 45° (d)  $75^{\circ}$ Directions (Q. Nos. 32 and 33) The adjoining pie chart represents the proposed outlay of the fifth-five years plan of Rs.40000 (in crores). Examine the chart and answer the questions. Agriculture Irrigation and Power Industries and Minerals Education Roads and Communications **32.** The amount proposed on agriculture is more than that on industries and minerals by (a) 7.5% (b) 10% (c) 12% (d) 12.5% 33. The amount (in Rs. crore) proposed on irrigation and power is less than that on industries and minerals by (a) 3000 (b) 3500 (c) 2000 (d) 2500 **34.** The average of 50 numbers is 38. If two numbers namely 45 and 55 are discarded, the average of remaining numbers is

(a) 36.5(b) 37(c) 37.5(d) 37.52

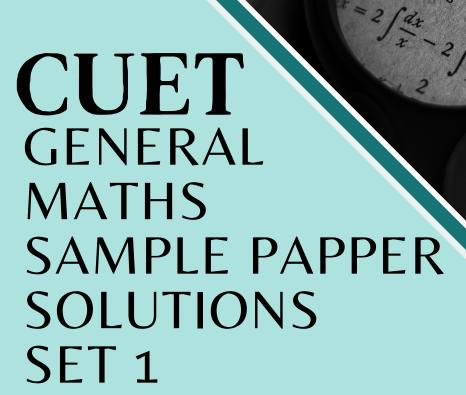
<b>35.</b> The price of petrol went up by 25%. In order that expenses on petrol should not increase. One must reduce travel by
(a) 25% (b) 20% (c) 18% (d) 15%
<b>36.</b> In an examination, 35% of the students passed and 455 failed. How many students appeared for the examination?
(a) 490 (b) 700 (c) 1300 (d) 845
<b>37.</b> When a number is divided by 121, the remainder is 25. If the same number is divided by 11, the remainder will be
(a) 3 (b) 4 (c) 6 (d) 25
<b>38.</b> In a group of cows and hens, the number of legs are 14 more than twice the number of heads. The number of cows is
(a) 5 (b) 7 (c) 10 (d) 12
<b>39.</b> If a number is decreased by 4 and divided by 6 the result is 8. What would be the result if 2 is subtracted from the number and then it is divided by 5?
(a) $9\frac{2}{3}$ (b) $10\frac{1}{5}$ (c) $11\frac{2}{5}$ (d) $10$

	(a) 111
	(b) 10101
	(c) 1001001
	(d) 3
41.	Find the rate of discount when marked price is ₹ 250 and selling price is ₹ 235.
	(a) 6.0%
	(b) 7.0%
	(c) 6.5%
	(d) 5.0%
42.	The list price of a watch is ₹160. After two successive discounts, it is sold for ₹ 122.4 If the first discount is 10%, what is the rate of the second discount?
	(a) 13%
	(b) 18%
	(c) 16%
	(d) 15%
43.	A certain sum of money is divided between P and Q in the ratio of $3\frac{1}{2}$ : $5\frac{1}{2}$ . If P gets ₹
	180 less than $Q$ , then the square of $Q$ is
	$(a) \ni 215$
	(a) ₹ 315 (b) ₹ 495
	(c) ₹ 630
	(d) ₹ 810
44.	Four numbers in the ratio 1: 3: 4: 7 add upto give a sum of 105. Find the value of the biggest number.
	(a) 42
	(a) 42 (b) 35
	(c) 49
	(d) 63
45.	If 6440 soldiers were asked to stand in rows to form a perfect square, it was found that
	soldiers were left out. What was the number of soldiers in each row?
	(a) 40
	(b) 80
	(c) 64

46.	Atul bought 30 kg of rice at ₹ 8.50perkg and 20 kg of rice at ₹ 8.00 per kg. If he has to
	make a 20% profit, at approximately, what rate per kg should he sell the rice?
	<ul> <li>(a) ₹ 10.00</li> <li>(b) ₹ 12.00</li> <li>(c) ₹ 8.50</li> <li>(d) ₹ 8.00</li> </ul>
47.	A certain sum is invested at simple interest. If it trebles in 10yr, what is the rate of interest?
18	<ul> <li>(a) 18% per annum</li> <li>(b) 20% per annum</li> <li>(c) 22% per annum</li> <li>(d) 25% per annum</li> <li>□ lent be ₹ 5000 to □ for 2yr and ₹ 3000 to □ for 4yr on simple interest at the same rate</li> </ul>
то.	of interest and received ₹ 2200 in all from both as interest. The rate of interest per annum is
	(a) 8% (b) 9% (c) 10% (d) 12%
49.	Five bells first begin to toll together and then at intervals of 3, 5, 7, 8 and 10 s. Find after what interval they will again toll together. How many times does they toll together in one hour?
	(a) 14 min, 3 times (b) 12 min, 4 times (c) 14 min, 4 times (d) 12 min, 3 times
50.	The LCM of $(16 - x^2)$ and $(x^2 + x - 6)$ is

(a)  $(x-3)(x+3)(4-x^2)$ (b)  $4(4-x^2)(x+3)$ (c)  $(4-x^2)(x-3)$ (d)  $(16-x^2)(x-2)(x+3)$ 





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1.	(d)	2.	(b)	3.	(a)	4.	(c)	5.	(c)	6.	(d)	7.	(d)	8.	(d)	9.	(a)	10.	(a)
11.	(b)	12.	(c)	13.	(d)	14.	(c)	15.	(b)	16.	(c)	17.	(c)	18.	(d)	19.	(a)	20.	(a)
21.	(c)	22.	(b)	23.	(c)	24.	(d)	25.	(b)	26.	(a)	27.	(c)	28.	(d)	29.	(d)	30.	(c)
31.	(b)	32.	(b)	33.	(a)	34.	(c)	35.	(b)	36.	(b)	37.	(a)	38.	(b)	39.	(d)	40.	(c)
41.	(a)	42.	(d)	43.	(b)	44.	(c)	45.	(b)	46.	(a)	47.	(b)	48.	(c)	49.	(c)	50.	(d)

## **Hints & Solutions:**

**1.** Let the two digits number be 10x + y.

By given condition,

$$10x + y + 10y + x = z^2$$

(Square number)

$$11(x+y) = z^2$$
$$x+y = \frac{z^2}{11}$$

Putting the all values of x and y which sum is 11, we find 8 such numbers.

2. Let the three consecutive numbers be x, x + 1 and x + 2 respectively.

According to question,

$$x^{2} + (x + 1)^{2} + (x + 2)^{2} = 365$$

$$x^{2} + x^{2} + 1 + 2x + x^{2} + 4 + 4x = 365$$

$$3x^{2} + 6x + 5 - 365 = 0$$

$$x^2 + 2x - 120 = 0$$

On solving, x = 10

∴ Sum of numbers

$$= 10 + 11 + 12 = 33$$

3. Let the number of boys = x

According to question,

$$\frac{25}{100}x^2 = 400 \Rightarrow x^2 = 1600 \Rightarrow x = 40$$

**4.** Let the two numbers be 2x, 3x respectively.

LCM of numbers = 48

$$2 \times 3x = 48$$
$$x = \frac{48}{6} = 8$$

 $\therefore$  Sum of two numbers =  $2 \times 8 + 3 \times 8 = 16 + 24 = 40$ 

**5.** Smallest number of 5 digits = 10000 When 10000 is divided by 41, remainder = 37

Hence, required number = 10000 + (41 - 37) = 10004

**6.**  $\frac{128 \div 16 \times ? - 7 \times 2}{7^2 - 8 \times 6 + ?^2} = 1$ 

$$\Rightarrow \frac{8 \times ? - 14}{49 - 48 + ?^2} = 1$$

$$\Rightarrow 1 + ?^2 = 8 \times ? -14$$

$$\Rightarrow$$
?<sup>2</sup>-8×?+15 = 0

On putting 'x' in place of question mark '?', we get

$$x^2 - 8x + 15 = 0$$

$$(x-3)(x-5)=0$$

$$\therefore x = 3 \text{ or } 5$$

7. Let the number be N.

According to the question,

$$\frac{N-4}{6} = 8$$

$$\Rightarrow N = (8 \times 6) + 4$$

$$\Rightarrow N = 52$$
Now, 
$$\frac{N-2}{5} = \frac{52-2}{5} = \frac{50}{5} = 10$$

**8.** Let usual speed and usual time taken by the man are S km/h and T h, respectively.

$$D = ST$$

According to the question, we get

$$D = \frac{3}{4}S \cdot \left(T + \frac{1}{3}\right)$$

From Eqs. (i) and (ii), we get

$$ST = \frac{3}{4}S \cdot \left(T + \frac{1}{3}\right)$$

$$\Rightarrow 4T = 3T + 1$$

$$\therefore T = 1 \text{ h} = 60 \text{ min}$$

9. Total runs scored in 14 innings =  $30 \times 14 = 420$ 

Suppose he makes x runs in his next inning.

Then, 
$$\frac{420+x}{15} = 32$$

$$x = 32 \times 15 - 420 = 60 \text{ runs}$$

10. Sum of five numbers

$$= 42 \times 5 = 210$$

Sum of eight numbers

$$= 81 \times 8 = 648$$

∴ Average of all numbers

$$=\frac{210+648}{13}=\frac{858}{13}=66$$

**11.** 
$$\sqrt[6]{0.000729} = \sqrt[6]{(0.3)^6} = 0.3$$

12. 
$$? = 1499 \times 1499$$
  
 $\Rightarrow ? = 2247001$ 

13. 
$$\frac{a}{b} = \frac{2}{3}$$
,  $\frac{b}{c} = \frac{4}{5}$   
= ₹1800  
⇒  $a$ :  $b$ :  $c$  = 8: 12: 15  
Let  $a$  = 8 $k$ ,  $b$  = 12 $k$  and  $c$  = 15 $k$   
∴  $\frac{a+b}{b+c} = \frac{8k+12k}{12k+15k} = \frac{20}{27}$ 

**14.** Let A 's monthly income =  $\Re 9x$  and B 's monthly income =  $\Re 8x$  According to question, Ratio between their expenditures = 8:7

$$\frac{9x - 500}{8x - 500} = \frac{8}{7}$$
$$6x - 3500 = 64x - 4000$$
$$x = 500$$

 $\therefore$  *A* 's monthly income = 9 × 500 = ₹4500

15. Total number of failed students is

$$445 \equiv (100 - 35)\%$$
  
 $445 \equiv 65\%$ 

So, the total number of students appeared for the examination is given by 100%

$$= \frac{455}{65} \times 100$$
$$= \frac{91}{13} \times 100 = 700 \text{ student}$$

**16.** Total cost price of eggs including transportation cost = 
$$10 \times 18 + 24$$

To get 10% profit, their SP = 110% of 204 = ₹224.40

But this is the SP of 110 eggs as 10 eggs were broken.

Hence, sale price per egg = 
$$\frac{224.40}{110}$$
 = ₹2.04

17. Sale price of the article = 
$$(100 + 20)\%$$
 of  $170 = ₹204$ 

Now, 
$$(100 - 15)\%$$
 of MP = SP

$$\Rightarrow MP = 204 \times \frac{100}{85} = ₹240$$

**18.** 
$$\Box$$
 = ₹10250,  $R$  = 4% per annum,  $SI$  = ₹(12710 − 10250) = ₹2460

Now, 
$$\Box = \frac{100 \times SI}{\Box \times \Box}$$

$$= \frac{100 \times 2460}{10250 \times 4}$$

$$= 6yr$$

$$\therefore \square = 6yr$$

Let x L of water is added to it, so that (1 + x)L of the mixture is sold at  $\ge 10$  per litre.

$$\therefore \text{ CP of } (1+x)L = ₹10$$

and SP of 
$$(1 + x)L = ₹10(1 + x)$$

Profit per cent:

$$\therefore 100x = 25 \Rightarrow x = \frac{1}{4}$$

 $\div$  250 mL of water should be mixed in every litre of milk.

**20.** Let B will do the remaining work in x days.

According of the question: 
$$\frac{\frac{5}{10} + \frac{x+5}{20} = 1}{\Rightarrow \frac{10+x+5}{20} = 1}$$
$$\Rightarrow x + 15 = 20$$
$$\therefore x = 5 \text{ days}$$

**21.** If they work together

$$= \frac{x \times y}{x + y} = \frac{12 \times 18}{12 + 18} = \frac{12 \times 18}{30}$$
  
= 7.2 days

**22.** Speed = 4 km/h

Time = 
$$3 \text{ h}45 \text{min} = 3\frac{3}{4} \text{ h}$$

- ∴ Distance covered by man
- $\therefore \text{ Required time} = \frac{15}{16.5} \text{ h}$

$$= \frac{15}{16.5} \times 60 \text{ min}$$
  
= 54.55 min

23. Speed of man = 2 m/s

$$=\frac{2 \times 18}{5} \text{ km/h} = \frac{36}{5} \text{ km/h}$$

Time = 1 h 20min = 
$$\frac{80}{60}$$
 h =  $\frac{4}{3}$  h

Distance = Time  $\times$  Speed

$$=\frac{36}{5}\times\frac{4}{3}=\frac{48}{5}=9.6$$
 km

**24.** Volume of solid sphere of radius 4 cm =  $\frac{4}{3}\pi(4)^3$ 

Volume of hollow sphere

$$= \frac{4}{3}\pi[(8)^3 - (6)^3]$$

$$\therefore \text{ Weight of } \frac{4}{3}\pi(4)^3 \text{ cm}^3 = 4 \text{ kg}$$

$$\therefore \text{ Weight of } \frac{4}{3}\pi[(8)^3 - (6)^3] \text{ cm}^3$$

$$= \frac{4}{\frac{4}{3}\pi(4)^3} \cdot \frac{4}{3}\pi[(8)^3 - (6)^3]$$

$$= \frac{3\pi(4)^3}{4(512-216)} = 18.5 \text{ kg}$$

**25.** Given,  $4\pi r^2 = 2\pi rh$ 

$$\Rightarrow h = 2r$$

Now, required ratio = 
$$\frac{4}{3}\pi r^3$$
:  $\pi r^2 h$   
=  $4r$ :  $3h$   
=  $4r$ :  $6r$   
=  $2$ :  $3$   
( $\because h = 2r$ )

**26.** Area of road = Width of road  $\times$  [Length of plot + Breadth of plot - Width of road]

$$= 10 \times [90 + 50 - 10]$$

$$= 10 \times 130$$

27. Given system of linear equations are  $\frac{4x}{10} + \frac{3y}{10} = \frac{17}{10}$  and  $\frac{7x}{10} - \frac{2y}{10} = \frac{8}{10}$ 

$$4x + 3y = 17$$
and 
$$7x - 2y = 8$$

On solving Eqs. (i) and (ii), we get

$$x = 2$$
 and  $y = 3$ 

28. Given, 
$$\frac{x + \frac{1}{x}}{x - \frac{1}{x}} = \frac{5}{4}$$
  

$$\Rightarrow 4 \times \left(x + \frac{1}{x}\right) = 5\left(x - \frac{1}{x}\right)$$

$$\Rightarrow 4x + \frac{4}{x} = 5x - \frac{5}{x}$$

$$\Rightarrow 5x - 4x = \frac{4}{x} + \frac{5}{x}$$

$$x = \frac{9}{x} \Rightarrow x^2 = 9$$

$$x = \pm \sqrt{9} = \pm 3$$

$$29. \sqrt{129 + \sqrt{216 + \sqrt{68 + \sqrt{169}}}}$$

$$= \sqrt{129 + \sqrt{216 + \sqrt{68 + 13}}}$$

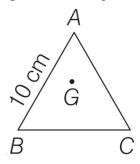
$$= \sqrt{129 + \sqrt{216 + \sqrt{81}}}$$

$$= \sqrt{129 + \sqrt{216 + 9}}$$

$$= \sqrt{129 + \sqrt{225}}$$

$$= \sqrt{129 + 15} = \sqrt{144} = 12$$

**30.** In equilateral triangle, Altitude = Median



So, length of altitude, 
$$AD = \frac{\sqrt{3}}{2}a = \frac{\sqrt{3}}{2} \times 10 = 5\sqrt{3}$$

Now, 
$$AG = \frac{2}{3} \times AD = \frac{2 \times 5\sqrt{3}}{3} = \frac{10\sqrt{3}}{3}$$
 cm

31. According to the questions, largest angle 
$$=\frac{180\times3}{(1+2+3)}=\frac{180}{6}\times3=90^{\circ}$$

32. Amount Spend on agriculture = 
$$\frac{108^{\circ}}{360^{\circ}} \times 40000 = \text{Rs. } 12000$$

Amount Spend on Industries and minerals = 
$$\frac{72^{\circ}}{360^{\circ}} \times 40000 = \text{Rs. } 8000$$

∴ Required percentage = 
$$\frac{12000-8000}{40000} \times 100 = 10\%$$

**33.** Required amount = 
$$\frac{72^{\circ} - 45^{\circ}}{360^{\circ}} \times 40000$$

$$\frac{27^{\circ}}{360^{\circ}} \times 40000 = \text{Rs.}3000$$

**34.** Average of remaining numbers

$$= \frac{(38 \times 50) - (45 + 55)}{48}$$
$$= \frac{1800}{48} = 37.5$$

**35.** One must reduce travel by x%.

Then 
$$x\% = \left(\frac{25}{100+25} \times 100\right)\%$$

$$x\% = \left(\frac{25}{125} \times 100\right)\%$$

$$x\% = 20\%$$

**36.** Total number of failed students is

$$445 \equiv (100 - 35)\%$$

So, the total number of students appeared for the examination is given by  $100\% = \frac{455}{65} \times 100$ 

$$=\frac{91}{13} \times 100 = 700$$
 student

- **37.** By Shortcut:  $25 \div 11$  gives 3 as remainder
- **38.** Let there be x cows and y hens.

Then, 
$$(4x + 2y) - 14 = 2(x + y)$$

$$4x + 2y - 14 = 2x - 2y$$

$$4x - 2x = 14$$

$$2x = 14$$

$$x = \frac{14}{2} = 7$$

- **39.** Clearly,  $\frac{567567567}{567} = 1001001$
- **40.** Required number of  $\frac{1}{8}$  in  $\frac{1}{2} = \frac{\frac{1}{2}}{\frac{1}{8}} = \frac{8}{2} = 4$
- 41. Rate of discount

$$=\frac{250-235}{250}\times100\%$$

$$= \frac{15}{250} \times 100\% = 6\%$$

**42.** Let the rate of the second discount be r%.

Then, 
$$(100 - 10)\%$$
 of  $(100 = r)\%$  of  $160 = 122.40$ 

$$\Rightarrow \frac{90}{100} \times \frac{100 - r}{100} \times 160 = 122.40$$

$$\Rightarrow 100 - r = \frac{122.40 \times 100 \times 100}{90 \times 160}$$

$$= 85$$

$$\Rightarrow r = 15\%$$

**43.** The ratio of *P* 's share and *Q* 's share =  $3\frac{1}{2}$ :  $5\frac{1}{2} = \frac{7}{2}$ :  $\frac{11}{2} = 7$ : 11 By given condition,

$$11x - 7x = 180 \Rightarrow x = 45$$

- $\therefore$  The share of  $Q = 11x = 11 \times 45 = ₹495$
- **44.** Let the numbers are x, 3x, 4x and 7x By given condition,

$$x + 3x + 4x + 7x = 105$$

$$\Rightarrow 15x = 105$$

$$\Rightarrow x = 7$$

- $\therefore \text{ Biggest number} = 7 \times 7 = 49$
- **45.** Total number of soldiers = 6440 and number of left soldiers =  $40 \div \text{Number of soldiers}$  in square = 6440 40 = 6400
  - $\therefore$  Number of soldiers in a row =  $\sqrt{6400}$  = 80

**46.** 
$$\frac{30}{20} = \frac{x-8}{8.50-x}$$

Where, x is the CP of the mix per kg.

$$\Rightarrow \qquad 25.50 - 3x = 2x - 15$$

$$\Rightarrow 5x = 25.50 + 16$$

$$\therefore \ x = \frac{41.50}{5} = \$8.30$$

∴ SP of mix per kg at 20% profit

$$= \frac{8.30 \times 120}{100} = 9.96$$
  
= ₹10.00 (approx.)

**47.** Let the sum be ₹x. Then,

$$SI = \mathbb{Z}(3\square - \square) = \mathbb{Z}2\square$$

$$\therefore \quad 2 \square \quad = \frac{\square \times \square \times 10}{100}$$

$$\therefore$$
  $\square$  = 20% per annum

**48.** Suppose rate of interest per annum = r%

According to the question, 
$$\frac{5000 \times 2 \times \square}{100} + \frac{3000 \times 4 \times \square}{100} = 2200$$

$$\Rightarrow 100 \square + 120 \square = 2200$$

$$\Rightarrow 220 \square = 2200$$

$$\Rightarrow \square = \frac{2200}{220}$$

= 10%

**49.** Required time interval

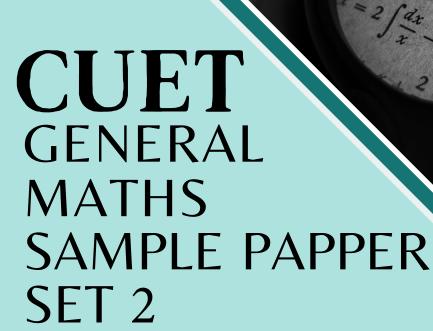
$$= 840 \text{ s}$$

Number of times they will toll together in one hour =  $\frac{60}{14} = 4$  times.

**50.** 
$$(16 - x^2) = (4 - x)(4 + x)$$
  
 $(x^2 + x - 6) = (x + 3)(x - 2)LCM$   
of  $(16 - x^2)$  and  $(x^2 + x - 6)$ 

$$= (16 - x^2)(x - 2)(x + 3)$$





## **PRACTICE PAPER - 2**

**Number of Questions: 50** 

- 1. In a  $\triangle$  ABC,  $\angle$ A = 90°,  $\angle$ C = 55° and  $\overline{AD} \perp \overline{BC}$ . What is the value of  $\angle$ BAD?
  - (a)  $60^{\circ}$
  - (b) 45°
  - $(c) 55^{\circ}$
  - (d) 35°
- 2. The ratio of the number of boys and girls in a government aided school is 3: 2.20% of the boys and 25% of the girls are not scholarship holders. The percentage of students who are scholarship holders is?
  - (a) 70%
  - (b) 48%
  - (c) 60%
  - (d) 78%
- **3.** The side of a square increases by 10%, then find, by what per cent, does its area increase?
  - (a) 27
  - (b) 30
  - (c) 19
  - (d) 21
- 4. Simplify  $\frac{\frac{1}{3} + \frac{1}{4} \left[ \frac{2}{5} \frac{1}{2} \right]}{1\frac{2}{3} \text{ of } \frac{3}{4} \frac{3}{4} \text{ of } \frac{4}{5}}$ 
  - (a)  $\frac{37}{78}$
  - (b)  $\frac{37}{13}$
  - (c)  $\frac{74}{78}$
  - $(d) \frac{\frac{76}{74}}{13}$

- 5. Ram went to a market and bought one copy of a Mathematics book and two pencils for ₹ 165. Rahim went to the same market and bought another copy of the same book and ten pencils of the same brand for ₹169. The price of each pencil was
  - (a)  $\ge 0.50$
  - (b) ₹ 1
  - (c) ₹ 0.75
  - (d) ₹ 2
- **6.** Each member of picnic party contributed twice as many rupees as the total number of members and the total collection was ₹ 3042. The number of members present in the party was
  - (a) 2
  - (b) 32
  - (c) 40
  - (d) 39
- 7. If cube root of 175616 is 56, then the value of  $\sqrt[3]{175.616} + \sqrt[3]{0.175616} + \sqrt[3]{0.000175616}$  is equal to
  - (a) 0.168
  - (b) 62.16
  - (c) 6.216
  - (d) 6.116
- **8.** Several litres of acid were drawn off a 54 L vessel full of acid and an equal amount of water added. Again the same volume of the mixture was drawn off and replaced by water. As a result, the vessel contained 24 L of pure acid. How much of the acid was draw off initially?
  - (a) 12 L
  - (b) 16 L
  - (c) 18 L
  - (d) 24 L



- 9. A shopkeeper purchases 10 pieces of certain items for ₹ 8.00 and sells them at 8 pieces for ₹ 10.00. The profit percentage of the shopkeeper is
  - (a) 56.50
  - (b) 56.25
  - (c) 25.50
  - (d) 26.25
- 10. The marked price is 10% higher than the cost price. A discount of 10% is given on the marked price. In this kind of sale, the seller
  - (a) losses 1.5%
  - (b) bears no loss, makes no gain
  - (c) gains 1%
  - (d) losses 1%
- 11. If  $\frac{3x+6}{8} \frac{11x-8}{24} + \frac{x}{3} = \frac{3x}{4} \frac{x+7}{24}$ , then the value of x is
  - (a) -3
  - (b)  $\frac{3}{2}$  (c) 3

  - (d)  $\frac{1}{3}$
- **12.** The value of y in the solution of the equation  $2^{x+y} = 2^{x-y} = \sqrt{8}$  is
  - (a) 0

  - (c)  $\frac{1}{2}$ (b)  $\frac{1}{4}$ (d)  $\frac{3}{7}$
- 13. The diameters of two concentric circles are 8 cm and 10 cm. The area of the region between them is
  - (a)  $2\pi$ sqcm
  - (b)  $4\pi$ sqcm
  - (c)  $36\pi$ sqcm
  - (d)  $9\pi$ sqcm

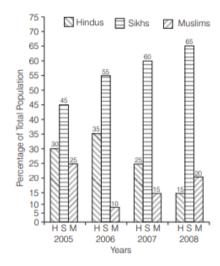
- 14. The diagonal of square field is 50 m. The area (in  $m^2$ ) of the field is
  - (a) 625
  - (b) 1250
  - (c) 2500
  - (d) 5000
- **15.** If  $\frac{1}{5}$ :  $\frac{1}{x} = \frac{1}{x}$ :  $\frac{1}{1.25}$ , then the value of x is
  - (a) 1.5
  - (b) 2
  - (c) 2.5
  - (d) 3.5
- **16.** If the length of longest rod that can be placed within the cuboid is  $5\sqrt{5}$  m long and the sum of length breadth and height is 19 m long, then find the whole surface area of that cuboid.
  - (a)  $236 \text{ m}^2$
  - (c) 125 m<sup>2</sup>
  - (b)  $256 \text{ m}^2$
  - (d)  $361 \text{ m}^2$
- **17.** If a: b = c: d, then  $\frac{ma+nc}{mb+nd}$  is equal to
  - (a) m:n
  - (b) *na*: *mb*
  - (c) a: b
  - (d) md:nc
- **18.** 15 trackmen complete rail renewal job in 12 days. How many days would 18 trackmen take to complete the same job?
  - (a) 10
  - (b) 18
  - (c) 15
  - (d) 17

- 19. A man can do a work in 15 days. His father does this work in 20 days and man's son do this work in 25 days. If all do the work together, how many days will they take?
  - (a) Less than 6 days
  - (b) 6 days
  - (c) Approximately 6.4 days
  - (d) More than 10 days
- **20.** The average of five numbers is 42 while the average of another eight numbers is 81. What is the combined average of all numbers together?
  - (a) 66
  - (b) 60.5
  - (c) 68.5
  - (d) 64
- **21.** The average of first five multiple of 3 is
  - (a) 3
  - (b) 9
  - (c) 12
  - (d) 15
- **22.** The LCM of  $(16 x^2)$  and  $(x^2 + x 6)$  is
  - (a)  $(x-3)(x+3)(4-x^2)$
  - (b)  $4(4-x^2)(x+3)$

  - (c)  $(4 x^2)(x 3)$ (d)  $(16 x^2)(x 2)(x + 3)$
- 23. If a man runs at 2 m/s, how many kilometres does he run in 1 h20 min?
  - (a) 8.4
  - (b) 6.9
  - (c) 9.6
  - (d) 7.4

- **24.** Nalanda and Nawada are two towns. Sabir goes from Nalanda to Nawada at 30 km/h and comes back to the starting point at 70 km/h. What is the average speed during the whole journey?
  - (a) 12 km/h
  - (b) 60 km/h
  - (c) 24 km/h
  - (d) 42 km/h

**Directions (Q. Nos. 25 -28)** The following diagram shows the percentage of population of Hindus, Sikhs and Muslims with respect to total population in a town during 2005 to 2008. Study the diagrams and answer the question.



- **25.** If the total population in 2007 was 80 lakhs, then the number of Hindus in 2007 was (in lakh)
  - (a) 25
  - (b) 16
  - (c) 18
  - (d) 20
- 26. Percentage decrease in Hindu population from 2005 to 2008 is
  - (a) 50
  - (b) 40
  - (c) 25
  - (d) 15
- 27. Difference of percentage of population of Hindus in 2005 and 2008 is
  - (a) 20
  - (b) 15
  - (c) 25
  - (d) 30



28. If the total number of Hindus in 2008 was 12 lakhs, the number of Muslims in 2008 was
(in lakh)
(a) 28
(b) 12
(c) 24
(d) 16
29. Three cubes of iron of edges 9 cm, 12 cm and 15 cm respectively are melted to form a

29.	Three cubes of iron of edges 9 cm, 12 cm and 15 cm respectively are melted to form a
	large single cube. The edge of the new cube is

- (a) 10 cm (b) 14 cm (c) 18 cm
- (d) 16 cm30. Three cubes of iron of edges 9 cm, 12 cm and 15 cm respectively are melted to form a
- large single cube. The edge of the new cube is

  (a) 10 cm
  - (a) 10 cm (b) 14 cm
  - (c) 18 cm
  - (d) 16 cm
- **31.** A number consists of two digits. If the digits interchange places and the new number is added to the original number, the resulting number will be divisible by
  - (a) 11
  - (b) 5
  - (c) 3
  - (d) 9
- 32. An 85 m long rod is divided into two parts. If one part is  $\frac{2}{3}$  of the other part, then the longer part (in m) is
  - (a) 34
  - (b)  $56\frac{2}{3}$
  - (c) 85
  - (d) 51



- **33.** The unit's place digit in the product  $(3127)^{173}$  will be
  - (a) 1
  - (b) 3
  - (c)7
  - (d) 9
- 34. If a number is decreased by 4 and divided by 6 the result is 8. What would be the result if 2 is subtracted from the number and then it is divided by 5?
  - (a)  $9\frac{2}{3}$ (b)  $10\frac{1}{5}$ (c)  $11\frac{2}{5}$

  - (d) 10
- **35.** 0.008 is what per cent of 0.2?
  - (a) 0.4
  - (b) 2
  - (c) 40
  - (d) 4
- **36.** If x% of  $\frac{25}{2}$  is 150, then the value of x is
  - (a) 1000
  - (b) 1200
  - (c) 1400
  - (d) 1500
- 37. Each student of class 10 contributed some money for a picnic. The money contributed by each student was equal to the cube of the total number of students. If the total collected amount was ₹ 29791, find the total number of students.
  - (a) 15
  - (b) 27
  - (c) 31
  - (d) 34

- **38.**  $17^{3.5} \times 17^{7.3} \div 17^{4.2} = 17^2$ , then find the value of (?).
  - (a) 6.5
  - (b) 7.2
  - (c) 6.6
  - (d) 15.8
- **39.** The solution of the system of linear equations 0.4x + 0.3y = 1.7 and 0.7x 0.2y = 0.8
  - (a) x = 3, y = 2
  - (b) x = 2, y = -3
  - (c) x = 2, y = 3
  - (d) None of these
- **40.** A motor boat takes 2 h to travel a distance of 9 km down the current and it takes 6 h to travel the same distance against the current. The speed of the boat in still water and that of the current (in km/h) respectively are
  - (a) 3.2
  - (b) 3.5,2.5
  - (c) 3,1.5
  - (d) 3.1
- **41.** Distance between two towns P and Q is 240 km. A motor cycle rider starts from P towards Q at 8pm at a speed of 40 km/h. At the same time another motor cycle rider starts from Q towards P at 50 km/h. At what time will they meet?
  - (a) 9: 45pm
  - (b) 10:40pm
  - (c) 11pm
  - (d) 10:30pm
- **42.** The value of  $\frac{3 \cdot 9^{n+1} + 9 \cdot 3^{2n-1}}{9 \cdot 3^{2n} 6 \cdot 9^{n-1}}$  is

  - (a)  $3\frac{3}{5}$ (b)  $3\frac{2}{5}$
  - (c) 3n + 1
  - (d) 3n 16

<b>43.</b> Each student of class 10 contributed some money for a picnic. The money contributed each student was equal to the cube of the total number of students. If the total collected amount was ₹ 29791, find the total number of students.	•
(a) 15 (b) 27 (c) 31 (d) 34	
<b>44.</b> An angle is 10° more than one-third of its complement. Find the greater angle.	

<b>44.</b> An angle is 10	more than one-third of	i its complement.	Find the greater	angie.



**45.** If the distance between the points (x, 0) and (-7,0) is 10 units, then the possible values of x are

- (a) 3 and 17 (b) -3 and 17 (c) 3 and -17 (d) -3 and -17
- **46.** There are three containers of equal capacity. The ratio of sulphuric acid to water in the first container is 3: 2, that in the second container is 7: 3 and in the third container 11:4. If all the liquids are mixed together, then the ratio of sulphuric acid to water in the mixture will be
  - (a) 61: 29 (b) 61: 28 (c) 60: 29 (d) 59: 29

**47.** The average of 50 numbers is 38. If two numbers namely 45 and 55 are discarded, the average of remaining numbers is

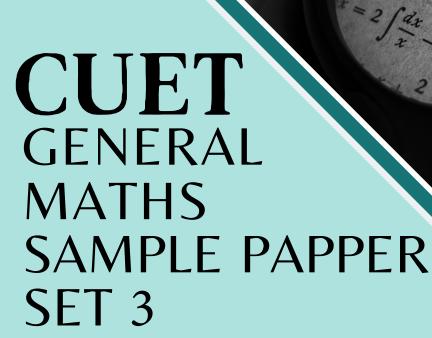
(a) 36.5(b) 37(c) 37.5(d) 37.52

- 48. If 6 men and 8 boys can do a piece of work in 10 days, while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be
  - (a) 4 days
  - (b) 5 days
  - (c) 6 days
  - (d) 7 days
- **49.** A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is

  - (a)  $\frac{1}{4}$ (b)  $\frac{1}{10}$ (c)  $\frac{7}{15}$ (d)  $\frac{8}{15}$
- **50.**  $\sqrt{0.04} = ?$ 
  - (a) 0.002
  - (b) 0.02
  - (c) 0.2
  - (d) None of these



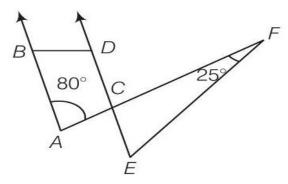




#### PRACTICE PAPER - 3

**Number of Questions: 50** 

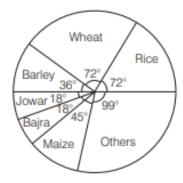
- **1.** 8 horses' food is equal to 6 cows' food. How many cows can eat the food meant for 20 horses?
  - (a) 15
  - (b) 16
  - (c) 17
  - (d) 18
- **2.** Find out of LCM of  $4^5$ ,  $4^{-18}$ ,  $4^{12}$  and  $4^7$ 
  - (a)  $4^{-81}$
  - (c)  $4^7$
  - (b)  $4^5$
  - (d)  $4^{12}$
- **3.** HCF of ₹ 1.20, ₹ 3.40, ₹ 4.80
  - (a) 80 paise
  - (b) 60 paise
  - (c) 40 paise
  - (d) 20 paise
- **4.** In the given figure,  $AB \parallel CD$ . If  $\angle CAB = 80^{\circ}$  and  $\angle EFC = 25^{\circ}$ , then  $\angle CEF$  is equal to



- (a)  $65^{\circ}$
- (b) 55°
- (c) 45°
- (d)  $75^{\circ}$

- 5. Three angles of a quadrilateral are 80°, 95° and 112°. Its fourth angle is
  - (a)  $78^{\circ}$
  - (b) 73°
  - (c) 85°
  - (d)  $100^{\circ}$

**Directions** (Q. Nos. 6 - 10) The pie chart provided below gives the distribution of land (in a village) under various food crops. Study the pie chart carefully and answer the questions based on it.



- **6.** If the total area under bajra was three hundred acre, then the total area (in hundred acre) under rice and barley together is
  - (a) 18
  - (b) 12
  - (c) 15
  - (d) 20
- **7.** The combination of three crops which contribute to more than 50% of the total area under the food crops is
  - (a) wheat, rice and maize
  - (b) wheat, rice and jowar
  - (c) wheat, rice and bajra
  - (d) rice, barley and maize
- **8.** The ratio of the land used for rice and barley is
  - (a) 3:1
  - (b) 1:2
  - (c) 2:1
  - (d) 3:2

<ul> <li>9.If 10% of the land reserved for rice be distributed to wheat and barley in the ratio 2 1: , then the angle corresponding to wheat in the new pie chart will be</li> <li>(a) 38.4°</li> <li>(b) 76.8°</li> <li>(c) 75.6°</li> <li>(d) 45.5°</li> </ul>
<ul> <li>10. If the production of rice is 5 times that of jowar and the production of jowar is 2 times that of bajra, then the ratio between the yield per acre of rice and bajra is</li> <li>(a) 5: 2</li> <li>(b) 3: 1</li> <li>(c) 4: 1</li> <li>(d) 6: 1</li> </ul>
11. The sum of all natural numbers between 100 and 200 which are multiples of 3 is
<ul> <li>(a) 5000</li> <li>(b) 4950</li> <li>(c) 4980</li> <li>(d) 4900</li> <li>12. A number divided by 899 gives a remainder of 63. If the number is divided by 29, the remainder will be</li> </ul>
(a) 2 (b) 5 (c) 13 (d) 28
<b>13.</b> A can do 3/4 of a work in 12 days. In how many days can he finish 1/8 of the work?
(a) 1 (b) 2 (c) 3 (d) 4
14. A motorist travels to a place 150 km away at an average speed of 50 km/h and returns at 30 km/h. His average speed for the whole journey (in km/h) is
(a) 35 (b) 37 (c) 37.5 (d) 40



- **15.** Three years ago, the average age of a family of 5 members was 17yr. A baby having been born, the average age of the family is the same today. The present age of the baby is
  - (a) 2yr
  - (b) 2.4yr
  - (c) 3yr
  - (d) 1.5yr
- $16. \sqrt{\frac{0.441}{0.625}} = ?$ 
  - (a) 0.048
  - (b) 0.084
  - (c) 0.48
  - (d) 0.84
- **17.** The value of  $\sqrt{\frac{1.21 \times 0.9}{1.1 \times 0.11}}$  is
  - (a) 2
  - (b) 3
  - (c) 9
  - (d) 11
- **18.** A dog pursues a cat and takes 5 leaps for every 6 leaps of the cat, but 4 leaps of the dog are equal to 5 leaps of the cat. Compare the speeds of the dog and the cat.
  - (a) 15:22
  - (b) 9:25
  - (c) 25:21
  - (d) 25:24
- **19.** What should be subtracted from each of the numbers 54,71,75 and 99, so that the remainders are in continued proportion?
  - (a) 9
  - (c) 4
  - (b) 7
  - (d) 3

- **20.** What per cent of 400 is 60?
  - (a) 6
  - (b) 12
  - (c) 15
  - (d) 20
- **21.** A reduction of 20% in the price of sugar enable a purchaser to obtain 3kg more for ₹ 120. The original price of sugar per kg is
  - (a) ₹ 15
  - (b) ₹ 12
  - (c) ₹ 8
  - (d) ₹ 10
- **22.** A sphere and a right circular cylinder have the same radius r. If their volumes are equal, the height of the cylinder is
  - (a)  $\frac{4}{3}r$
  - (b)  $\frac{3}{4}r$
  - (c)  $\frac{2}{3}r$
  - (d)  $\frac{3}{2}r$
- 23. If the ratio of surface areas of two sphere is 9:16, then the ratio of their volume is
  - (a) 3:4
  - (b) 9:16
  - (c) 27: 64
  - (d) 81: 256
- **24.** Pure ghee costs ₹ 100 per kg. After adulterating it with vegetable oil costing ₹ 50 per kg. A shopkeeper sells the mixture at ₹ 96 per kg, thereby making a profit of 20%. In what ratio does he mix the two?
  - (a) 1:2
  - (b) 3:2
  - (c) 3:1
  - (d) 2:3



25.	Two types of oils having the rates of ₹ 4 per kg and ₹5 per kg respectively are mixed in order to produce a mixture having the rate of ₹ 4.60perkg. What should be the amount of the second type of oil if the amount of the first type of oil in the mixture is 40 kg?
	(a) 75 kg (b) 50 kg (c) 60 kg (d) 40 kg

26.	When	121012	is	divided	by	12,	the	remainde	r i	is
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(a) 0	
(b) 2	
(c) 3	

(d) 4

<b>27.</b> A chocolate has 12 equal pieces. Manju gave $\frac{1}{4}$	th of it to Anju,	$\frac{1}{3}$ rd of it to Sujata and	$\frac{1}{6}$ th
of it to Fiza. The number of pieces of chocolate	left with Manji	u is	

(a) 1 (b) 2 (c) 3

(d) 4

**28.** A man covers half of his journey at 6 km/h and the remaining half at 3 km/h. His average speed is

(a) 4.5 km/h (b) 3 km/h (c) 4 km/h (d) 9 km/h

**29.** If a train runs at 40 km/h, it reaches its destination late by 11 min. But, if it runs at 50 km/h, it is late by 5 min only. The correct time for the train to complete its journey is

(a) 15 min(c) 13 min(b) 21 min(d) 19 min



- **30.** If  $\left(x + \frac{1}{x}\right) : \left(x \frac{1}{x}\right) = 5: 4$ , then the value of x is
  - (a) 0
  - (b)  $\pm 1$
  - $(c) \pm 2$
  - $(d) \pm 3$
- **31.** The average of 11 observations is 60. If the average of first five observations is 58 and that of last five is 56, the sixth observation is
  - (a) 90
  - (b) 110
  - (c) 85
  - (d) 100
- **32.** A cricketer has completed 14 innings and his average is 30 runs. How many runs must he make in his next innings so as to raise his average to 32?
  - (a) 60
  - (b) 55
  - (c) 65
  - (d) 50
- 33. A cone of height 7 m and of base radius 3 m is carved from a rectangular block of wood of dimensions  $10 \text{ m} \times 5 \text{ m} \times 4 \text{ m}$ . The percentage of volume of the block left out is
  - (a) 67%
  - (b) 66%
  - (c) 34%
  - (d) 33%
- **34.** Three cubes of metal whose edges are in the ratio 3: 4: 5 are melted to form a single cube whose diagonal is  $12\sqrt{3}$  cm. The edges of the three cubes (in cm) are
  - (a) 9,12,15
  - (b) 15,20,25
  - (c) 6,8,10
  - (d) 8,10,12

- **35.** Find the largest number which divides 62,132 and 237 to leave the same remainder in each case.
  - (a) 21
  - (b) 30
  - (c)35
  - (d) 40
- 36. Five bells first begin to toll together and then at intervals of 3, 5, 7, 8 and 10 s. Find after what interval they will again toll together. How many times does they toll together in one hour?
  - (a) 14 min, 3 times
  - (b) 12 min, 4 times
  - (c) 14 min, 4 times
  - (d) 12 min, 3 times
- **37.** A, B and C can do a piece of work in 20,24 and 30 days, respectively. They undertook to do the piece of work for  $\ge$  5400. They begin the work together but B left 2 days before the completion of work and C left 5 days before the completion of work. The share of A from the assured money is
  - (a) ₹ 2700
  - (b) ₹ 540
  - (c) ₹ 1800
  - (d) ₹ 600
- **38.** A and B can do a piece of work in 72 days, B and C can do it in 120 days, and A and C can do it in 90 days. When A, B and C work together, how much work is finished by them in 3 days?

  - (a)  $\frac{1}{40}$ (b)  $\frac{1}{30}$ (c)  $\frac{1}{20}$ (d)  $\frac{1}{10}$
- **39.** If  $\sqrt{4^n} = 1024$ , then the value of *n* is
  - (a) 5
  - (b) 8
  - (c) 10
  - (d) 12



**40.** The value of  $\sqrt{248 + \sqrt{52 + \sqrt{144}}}$  is

- (a) 14
- (b) 16
- (c) 16.6
- (d) 18.2

**41.** The line graph below shows the number of houses sold each month by a real estate agent for the first six months of the year. Between which two months did sales increase the most?



- (a) April-May
- (b) May-June
- (c) January-February
- (d) March-April

**42.** In  $337^{337}$ , the unit digit is occupied by

- (a) 1
- (b) 3
- (c) 7
- (d) 9

**43.** When a number is divided by 121, the remainder is 25. If the same number is divided by 11, the remainder will be

- (a) 3
- (b) 4
- (c) 6
- (d) 25

- **44.** Divide 170 into three parts such that the first part is 10 more than the second and its ratio with third part is 2:5.
  - (a) 22:35:113
  - (b) 35:55:80
  - (c) 40: 30: 100
  - (d) 35: 65: 70
- 45. Ratio of boys to the girls in a class is 5: 4. Which of the following cannot be the number of students in the class?
  - (a) 45
  - (b) 72
  - (c) 108
  - (d) 98
- **46.** If 5 lemons are bought for ₹16, then the selling price of a lemon at 25% profit will be
  - (a) ₹ 5
  - (b) ₹ 4
  - (c) ₹ 6
  - (d) ₹ 8
- **47.** Alfred buys an old scooter for ₹4700 and spends ₹ 800 on its repairs. If he sells the scooter for ₹ 5800, his gain per cent is

  - (a)  $4\frac{4}{7}$ (b)  $5\frac{5}{11}$
  - (c) 10
  - (d) 12
- **48.** A man has some hens and cows. If the number of head: number of feet = 12:35, find out the number of hens, if the number of heads alone is 48
  - (a) 28
  - (b) 26
  - (c) 24
  - (d) 22

**49.**  $1 + \frac{1}{1 + \frac{1}{5}}$  is equal to

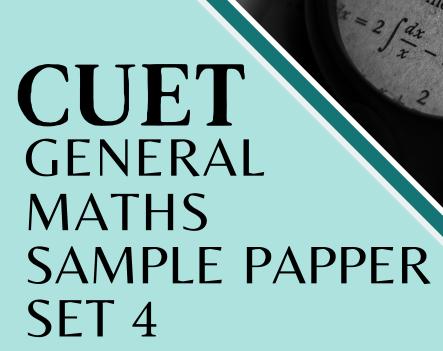
- (a) 11/6
- (b) 13/6
- (c) 15/6
- (d) None of these

**50.** In the following, which is the greatest number?

- (a)  $[(2+2)^2]^2$
- (b)  $(2+2+2)^2$
- $(c) (4)^2$
- (d)  $(2 \times 2 \times 2)^2$







#### **PRACTICE PAPER -** 4

**Number of Questions: 50** 

1. The average of five numbers is 42 while the average of another eight numbers is 81. What

is the combined average of all numbers together?

	(a) 66 (b) 60.5 (c) 68.5 (d) 64
2.	An ore contains 26% copper. To get 91 kg of copper the quantity of the ore required is
	(a) 350 kg (b) 250 kg (c) 240 kg (d) 450 kg
3.	The price of petrol went up by 25%. In order that expenses on petrol should not increase. One must reduce travel by
	(a) 25% (b) 20% (c) 18% (d) 15%
4.	A parallelogram has sides 15 cm and 7 cm long. The length of one of the diagonals is 20 cm. The area of then parallelogram is
	(a) 42 cm <sup>2</sup> (c) 84 cm <sup>2</sup> (b) 60 cm <sup>2</sup> (d) 96 cm <sup>2</sup>
5.	An equilateral triangle and a regular hexagon have the same perimeter. The ratio of the area of the triangle to that of the hexagon is
	(a) 3: 2 (b) 2: 3 (c) 1: 2 (d) 1: 4

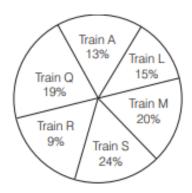


- **6.** A is twice as good a workman as B and together they finish a piece of work in 14 days. The number of days taken by A alone to finish the work is
  - (a) 11 days
  - (b) 21 days
  - (c) 28 days
  - (d) 42 days
- 7. A is thrice as good a workman as B and therefore is able to finish a job in 40 days less than B. Working together, they can do it in
  - (a) 14 days
  - (b) 13 days
  - (c) 20 days
  - (d) 15 days

**Directions** (Q. Nos. 8 - 12) Study the following pie chart carefully to answer the questions.

#### **Percentage of Passenger Travelling**

in Six Different Trains



**Total Number of Passengers = 8500** 

- **8.** What was the approximate average number of passengers in train S, train M and train L together?
  - (a) 1521
  - (b) 1641
  - (c) 1651
  - (d) 1671
- **9.** If in train R, 34% of the passengers are females and 26% are children, what is the number of males in that train?
  - (a)306
  - (b) 316
  - (c) 308
  - (d)318



- 10. The number of passengers in train Q is approximately what percentage of the total number of passengers in trains A and R?
  - (a) 90
  - (b) 70
  - (c)75
  - (d) 86
- 11. Which train has the second highest number of passengers?
  - (a) A
  - (b) Q
  - (c) S
  - (d) M
- 12. How many more per cent (approximately) number of passengers are there in train M as compared to the number of passengers in train L?
  - (a) 29
  - (b) 49
  - (c) 43
  - (d) 33
- 13.  $\left(-\frac{1}{343}\right)^{-\frac{2}{3}}$  is equal to
  - (a)  $-\frac{1}{49}$ (b)  $\frac{1}{49}$ (c) -49

  - (d) 49
- **14.** If  $5\sqrt{5} \times 5^3 \div 5^{-\frac{3}{2}} = 5^{x+2}$ , then the value of x is
  - (a) 4
  - (b) 5
  - (c) -3
  - (d) -6
- **15.** Which is greater  $\sqrt[3]{4}$ ,  $\sqrt[3]{6}$ ,  $\sqrt[6]{15}$ ,  $\sqrt[12]{245}$ ?
  - (a)  $\sqrt[3]{4}$
  - (b)  $\sqrt[3]{6}$
  - (c)  $\sqrt[6]{15}$
  - (d)  $\sqrt[12]{245}$

- 16. Find the number of divisors of 1420.
  - (a) 14
  - (b) 15
  - (c) 13
  - (d) 12
- 17. If  $1^2 + 2^2 + 3^2 + \dots + x^2 = \frac{x(x+1)(2x+1)}{6}$ , then  $1^2 + 3^2 + 5^2 + \dots + 19^2$  is equal to
  - (a) 1330
  - (b) 2100
  - (c) 2485
  - (d) 2500
- 18. The difference between the largest 4 digits number and the smallest 3 digits number is
  - (a) 9899
  - (b) 8999
  - (c) 9989
  - (d) 9889
- **19.**  $\frac{0.04}{0.03}$  of  $\frac{\left(3\frac{1}{3}-2\frac{1}{2}\right)\div\frac{1}{2}\text{ of }1\frac{1}{4}}{\frac{1}{3}+\frac{1}{5}\text{ of }\frac{1}{9}}=?$ 
  - (a) 1
  - (b) 5

  - (c)  $\frac{1}{5}$  (d)  $\frac{1}{2}$
- **20.** The value of

$$\frac{1}{\sqrt{2}+1} + \frac{1}{\sqrt{3}+\sqrt{2}} + \frac{1}{\sqrt{4}+\sqrt{3}} + \dots + \frac{1}{\sqrt{100}+\sqrt{99}}$$
 is

- (a) 1
- (b) 9
- (c)  $\sqrt{99}$
- (d)  $\sqrt{99} 1$
- **21.** Find out of LCM of  $4^5$ ,  $4^{-18}$ ,  $4^{12}$  and  $4^7$ 
  - (a)  $4^{-81}$
  - (c)  $4^7$
  - (b)  $4^5$
  - (d)  $4^{12}$

## 22. HCF of ₹ 1.20, ₹ 3.40, ₹ 4.80 (a) 80 paise (b) 60 paise (c) 40 paise (d) 20 paise

- **23.** The surface areas of a cylinder, a cone and a hemisphere of same radii are equal. The ratio between height of the cylinder and cone is
  - (a)  $2\sqrt{3}$ : 1 (b) 1:  $2\sqrt{3}$ (c) 2:  $\sqrt{3}$
  - (d)  $\sqrt{3}$ : 2
- 24. If the side of two cubes are in the ratio 3: 1, the ratio of their total surface areas is
  - (a) 3: 1 (b) 8: 1 (c) 9: 1
  - (d) 12: 1
- **25.** The ratio of the speeds of three cars is 2: 3: 4. What is the ratio of the times taken by them in covering the same distance?
  - (a) 2: 3: 4 (b) 4: 3: 2 (c) 4: 3: 6 (d) 6: 4: 3
- **26.** If the speed of a train is increased by 5 km/h from its normal speed it would have taken 2 h less to cover 300 km. What is its normal speed?
  - (a) 20 km/h (b) 25 km/h
  - (c) 30 km/h
  - (d) 45 km/h
- **27.** Which of the two is greater  $2^{300}$  or  $3^{200}$ ?
  - (a)  $3^{200}$
  - (b)  $2^{300}$
  - (c) Both are equal
  - (d) Can't say

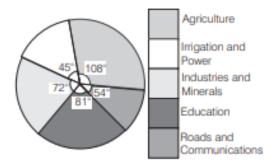


## CLICK HERE FOR SOLUTIONS

- **28.** If  $A = 5 + 2\sqrt{6}$ , then the value of  $\sqrt{A} + \frac{1}{\sqrt{A}}$  is
  - (a)  $2\sqrt{3}$
  - (b)  $\sqrt{3}$
  - (c)  $\sqrt{2}$
  - (d) 7
- **29.** The value of  $\left(\frac{1+\sqrt{2}}{\sqrt{5}+\sqrt{3}}\right) + \left(\frac{1-\sqrt{2}}{\sqrt{5}-\sqrt{3}}\right)$  is
  - (a)  $\sqrt{5} + \sqrt{6}$
  - (c)  $\sqrt{5} \sqrt{6}$
  - (b)  $2\sqrt{5} + \sqrt{6}$
  - (d)  $2\sqrt{5} 3\sqrt{6}$
- **30.** A dishonest dealer marks his goods 20% above the cost price. He also makes a profit by using a false weight of 900 g in place of 1 kg while buying or selling. Find the percentage profit earned by the shopkeeper.
  - (a) 20
  - (b) 12
  - (c) 42
  - (d) 46.6
- **31.** Mukul bought 80 kg of rice for ₹1200 and sold it at a loss of as much money as he received for 20 kg rice. At what price per kg did he sell the rice?
  - (a) ₹ 12 per kg
  - (b) ₹ 10 per kg
  - (c) ₹ 8 per kg
  - (d) ₹ 11 per kg
- 32. What can be said about the expansion of  $2^{12n} 6^{4n}$ , where n is a positive integer?
  - (a) Last digit is 4
  - (b) Last digit is 8
  - (c) Last digit is 2
  - (d) Last two digits are zero

- 33. Find the unit digit in the product of  $(268 \times 539 \times 826 \times 102)$ 
  - (a) 5
  - (b) 3
  - (c) 4
  - (d) 2
- **34.** On dividing a certain number by 357, the remainder is 39. On dividing the same number by 17. What will be the remainder?
  - (a) 5
  - (b) 3
  - (c) 7
  - (d) 6

**Directions (Q. Nos. 35 and 36)** The adjoining pie chart represents the proposed outlay of the fifth-five years plan of Rs.40000 (in crores). Examine the chart and answer the questions.



- 35. The amount proposed on agriculture is more than that on industries and minerals by
  - (a) 7.5%
  - (b) 10%
  - (c) 12%
  - (d) 12.5%
- **36.** The amount (in Rs. crore) proposed on irrigation and power is less than that on industries and minerals by
  - (a) 3000
  - (b) 3500
  - (c) 2000
  - (d) 2500

- **37.** 400 students took a mock exam in Delhi 60% of the boys and 80% of the girls cleared the cut off in the examination. If the total percentage of students qualifying is 65%, how many girls appeared in the examination?
  - (a) 100
  - (b) 120
  - (c) 150
  - (d) 300
- **38.** What sum of money is to be divided among 3 persons in the ratio 3: 4: 7, so that the second person receives ₹ 12 only?
  - (a) ₹ 21
  - (b) ₹ 32
  - (c) ₹ 9
  - (d) ₹ 42
- **39.** In a certain examination, the number of those who passed was 4 times the number of those who failed. If there had been 35 fewer candidates and 9 more had failed, the ratio of passed and failed candidates would have been 2: 1, then the total number of candidates was
  - (a) 135
  - (b) 155
  - (c) 145
  - (d) 150
- **40.** A cricketer has completed 14 innings and his average is 30 runs. How many runs must he make in his next innings so as to raise his average to 32?
  - (a) 60
  - (b) 55
  - (c) 65
  - (d) 50
- 41.  $1 + \frac{1}{1 + \frac{1}{5}}$  is equal to
  - (a) 11/6
  - (b) 13/6
  - (c) 15/6
  - (d) None of these



- **42.** In the following, which is the greatest number?
  - (a)  $[(2+2)^2]^2$
  - (b)  $(2 + 2 + 2)^2$ (c)  $(4)^2$

  - (d)  $(2 \times 2 \times 2)^2$
- 43. If the edge of a cube is increased by 100%, then the surface area of the cube is increased
  - (a) 100%
  - (b) 200%
  - (c) 300%
  - (d) 400%
- 44. A street of width 10 m surrounds from outside a rectangular garden whose measurement is 200 m  $\times$  180 m. The area of the path (in sqm) is
  - (a) 8000
  - (b) 7000
  - (c) 7500
  - (d) 8200
- **45.**  $17^{3.5} \times 17^{7.3} \div 17^{4.2} = 17^2$ , then find the value of (?).
  - (a) 6.5
  - (b) 7.2
  - (c) 6.6
  - (d) 15.8
- **46.**  $\left(\sqrt{2}^{\sqrt{2}}\right)^{\sqrt{2}} = 2^x$ , then x is equal to
  - (a) 2
  - (b) 0
  - (c) 3
  - (d) 1
- **47.**  $\left(-\frac{1}{343}\right)^{-\frac{2}{3}}$  is equal to
  - (a)  $-\frac{1}{49}$ (b)  $\frac{1}{49}$

  - (c) -49
  - (d) 49

- **48.** The product of the LCM and HCF of two numbers is 24. The difference of the two numbers is 2. Find the numbers.
  - (a) 8 and 6
  - (b) 8 and 10
  - (c) 12 and 4
  - (d) 6 and 4
- **49.** A 200 m long train crosses a platform of double its length in 36 s. The speed of the train is
  - (a) 60 km/h
  - (b) 48 km/h
  - (c) 64 km/h
  - (d) 66 km/h
- **50.** A train 270 m long is moving at a speed of 25 km/h. It will cross a man coming from the opposite direction at 2 km/h in
  - (a) 36 s
  - (b) 32 s
  - (c) 28 s
  - (d) 24 s





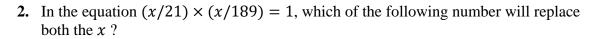
CUET GENERAL MATHS SAMPLE PAPPER SET 5

#### **PRACTICE PAPER - 5**

#### **Number of Questions: 50**

1.	A train running at 36 km/h takes 10 s to pass a telegraph pole. How long would it
	take to cross a platform 110 m long?

- (a) 24 s (b) 31 s
- (c) 21 s
- (d) 33



- (a) 21
- (b) 63
- (c) 3969
- (d) None of these
- **3.** The number of boys raised ₹ 400 for a relief fund, each boy giving as many 25 paise coin as there were boys. The number of boys was
  - (a) 40
  - (b) 16
  - (c) 20
  - (d) 100
- **4.** The unit's place digit in the product  $(3127)^{173}$  will be
  - (a) 1
  - (b) 3
  - (c)7
  - (d) 9
- 5. The sum of all natural numbers between 100 and 200 which are multiples of 3 is
  - (a) 5000
  - (b) 4950
  - (c)4980
  - (d) 4900

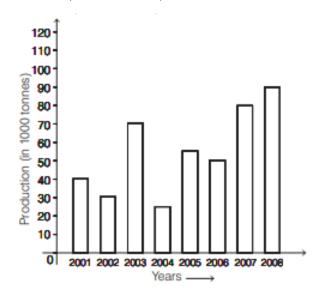


- **6.** A number divided by 899 gives a remainder of 63. If the number is divided by 29, the remainder will be
  - (a) 2
  - (b) 5
  - (c) 13
  - (d) 28

**Directions (Q. Nos. 7-11)** Study the following graph and answer the questions given below.

Production of Salt by a Company

(in 1000 tonne) Over the Years



- 7. What was the percentage increase in production of salt in 2008 compared to that of 2001?
  - (a) 55.5
  - (b)125
  - (c) 150
  - (d) 220
- **8.** In how many of the given years was the production of salt more than the average production of the given years?
  - (a) 1
  - (b) 2
  - (c) 3
  - (d) 4

<b>9.</b> The average production of 2004 and 2005 was exactly equal to the average production of which of the following pairs of years?
(a) 2006, 2007
(b) 2005, 2006
(c) 2002, 2006
(d) 2001, 2005
10 177

- 10. What was the percentage decline in the production of salt from 2003 to 2004?
  - (a) 64.2
  - (b) 180
  - (c) 62.4
  - (d) 10
- 11. The radius of the base and height of a cone are 3 cm and 5 cm respectively whereas the radius of the base and height of a cylinder are 2 cm and 4 cm respectively. The ratio of the volume of the cone to that of the cylinder is
  - (a) 15:8
  - (b) 45:16
  - (c) 15:16
  - (d) 1:3
- 12. A rectangular block 6 cm  $\times$  42 cm  $\times$  45 cm is cut up into exact number of equal cubes. The least possible number of cubes will be
  - (a) 30
  - (b) 210
  - (c) 330
  - (d) 420
- 13. A mixture of 20 kg of spirit and water contains 10% water. After adding a certain amount of water, the weight of the new mixture is 25 kg. What is the percentage of water in the new mixture?
  - (a) 18
  - (b) 28
  - (c) 12.5
  - (d) 15



- **14.** 60 kg of a certain variety of rice at ₹ 32perkg is mixed with 48 kg of another variety of rice and the mixture is sold at the average price of ₹ 28 per kg. If there be no profit or loss due to the new sale price, then the price of the second variety of rice is
  - (a) ₹ 25.60 per kg
  - (b) ₹ 25 per kg
  - (c) ₹ 23 per kg
  - (d) ₹ 30 per kg
- 15. The difference between the largest 3 digits number and the smallest 2 digits number is
  - (a) 989
  - (b) 899
  - (c) 998
  - (d) 988
- 16. What largest number of four digits is exactly divisible by 88?
  - (a) 9988
  - (b) 8888
  - (c) 9768
  - (d) 9944
- 17. In  $337^{337}$ , the unit digit is occupied by
  - (a) 1
  - (b) 3
  - (c)7
  - (d) 9
- **18.** If x% of  $\frac{25}{2}$  is 150, then the value of x is
  - (a) 1000
  - (b) 1200
  - (c) 1400
  - (d) 1500
- **19.** 10% of 15% of 20% of ₹500 is
  - (a) ₹ 225
  - (b) ₹ 150
  - (c) ₹ 67
  - (d) ₹ 1.50



<b>20.</b> The LCM of two numbers is 48. The numbers are in the ratio 2: 3. The sum of the numbers is
(a) 28 (b) 32 (c) 40 (d) 64
<b>21.</b> Which is the smallest number of five digits which is divided by 41?
(a) 10045 (b) 10004 (c) 10041 (d) 10025
<b>22.</b> Which of the following number has the highest divisor?
(a) 99 (b) 101 (c) 176 (d) 182
<b>23.</b> <i>X</i> can complete a piece of work in 30 h and <i>Y</i> can do it in 24 h. In how many hours will it be completed if they work together?
(a) 13.33 (b) 14.33 (c) 15.33 (d) 16.33
<b>24.</b> A can do 3/4 of a work in 12 days. In how many days can he finish 1/8 of the work?
(a) 1 (b) 2 (c) 3 (d) 4
<b>25.</b> The average of $10,12,16,20,p$ and $26$ is 17. Find the value of $p$ .
(a) 17 (b) 18 (c) 15 (d) 16

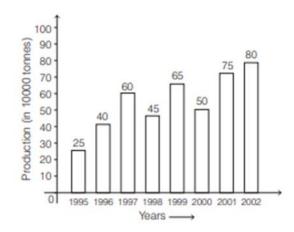


- **26.** The average of 11 results is 60 marks. If the average of first six results is 59 marks and that of the last six is 62 marks, then the sixth result contains
  - (a) 65 marks
  - (b) 66 marks
  - (c) 60 marks
  - (d) 61 marks
- 27. An angle is 10° more than one-third of its complement. Find the greater angle.
  - (a) 30°
  - (b)  $60^{\circ}$
  - (c) 45°
  - (d)  $75^{\circ}$
- 28. Simplify  $\frac{\frac{1}{3} + \frac{1}{4} \left[\frac{2}{5} \frac{1}{2}\right]}{1\frac{2}{3} \text{ of } \frac{3}{4} \frac{3}{4} \text{ of } \frac{4}{5}}$ 
  - (a)  $\frac{37}{78}$
  - (b)  $\frac{37}{13}$
  - $\binom{0}{13}$
  - $(d) \frac{78}{74}$
- **29.** Ram went to a market and bought one copy of a Mathematics book and two pencils for ₹ 165. Rahim went to the same market and bought another copy of the same book and ten pencils of the same brand for ₹169. The price of each pencil was
  - (a)  $\ge 0.50$
  - (b) ₹ 1
  - (c) ₹ 0.75
  - (d) ₹ 2
- **30.** If the distance between the points (x, 0) and (-7, 0) is 10 units, then the possible values of x are
  - (a) 3 and 17
  - (b) -3 and 17
  - (c) 3 and -17
  - (d) -3 and -17

**Directions (Q. Nos. 31 - 34)** Study the following graph and give the answers of the following questions.

Production of Fertilizers by a Company

(in 10000 tonne) Over the Years 1995-2002



- 31. What was the percentage decline in the production of fertilizers from 1997 to 1998?
  - (a)  $33_3^1$
  - (b) 30
  - (c) 25
  - (d) 20
- **32.** In how many years was the production, fertilizers more than the average production of the given years?
  - (a)1
  - (b) 2
  - (c) 3
  - (d) 4
- **33.** In which year was the percentage increase in production as compared to the previous year, the maximum?
  - (a) 2002
  - (b) 2001
  - (c) 1996
  - (d) 1997
- **34.** The ratio of total production of fertilizers in the years 1996 and 1997 to that of total production in the years 1995, 1998 and 2000 is
  - (a) 5:6
  - (b) 6:5
  - (c) 20:29
  - (d) 13:24



- **35.** Mukul bought 80 kg of rice for ₹1200 and sold it at a loss of as much money as he received for 20 kg rice. At what price per kg did he sell the rice?
  - (a) ₹ 12 per kg
  - (b) ₹ 10 per kg
  - (c) ₹ 8 per kg
  - (d) ₹ 11 per kg
- **36.** A furniture shop allows 20% discount on the marked price of each item what price must be marked on a table costing ₹ 560, so as to make a profit of 25%?
  - (a) ₹ 800
  - (b) ₹ 825
  - (c) ₹ 700
  - (d) ₹ 875
- **37.** Solve for x;  $x \in \mathbb{N}$ :  $(x-4)^2 36 = 0$ .
  - (a) -2
  - (b) -10
  - (c) 10
  - (d) 2
- **38.** Find the values of k for which  $x^2 + 5kx + k^2 + 5$  is exactly divisible by x + 2 but not divisible by x + 3.
  - (a) Both 1 and 9
  - (b) 1
  - (c) Neither 1 nor 9
  - (d) 9
- **39.** Find the value of  $\sqrt{5 \cdot \sqrt{5 \cdot \sqrt{5 \cdot ... \cdot \infty}}}$ .
  - (a) 125
  - (b) 25
  - (c)  $\sqrt{5}$
  - (d) 5

<b>40.</b> The least perfect square number divisible by each one of 3,4,5,6,8 is	
(a) 1200	
(b) 1500	
(c) 3600	

- **41.** The fourth proportional of the numbers 12,16,18 is
  - (a) 28 (b) 30 (c) 20 (d) 24

(d) 700

- **42.** The ratio of land and water in the whole world is 1: 2. If this ratio in the Northern hemisphere be 2: 3, then the ratio of land and water in the Southern hemisphere is
  - (a) 4: 7 (b) 4: 11 (c) 3: 4 (d) 4: 3
- **43.** A car covers a certain distance in 8 h. If the speed is increased by 4 km/h. This distance could be covered in  $7\frac{1}{2}$  h. This distance is
  - (a) 420 km (b) 480 km (c) 640 km (d) 700 km
- **44.** The ratio of the speeds of three cars is 2: 3: 4. What is the ratio of the times taken by them in covering the same distance?
  - (a) 2: 3: 4 (b) 4: 3: 2 (c) 4: 3: 6 (d) 6: 4: 3



<b>45.</b> The diameters of two concentric circles are 8 cm and 10 cm. The area of the region
between them is
(a) $2\pi \text{sqcm}$ (b) $4\pi \text{sqcm}$
(c) $36\pi \text{sqcm}$ (d) $9\pi \text{sqcm}$
<b>46.</b> The diagonal of square field is $50 \text{ m}$ . The area (in $m^2$ ) of the field is
(a) 625 (b) 1250 (c) 2500 (d) 5000
<b>47.</b> By mixing two different quantities of pulses in the ratio 2: 3 and selling the mixture at the rate of ₹ 22 per kg a shopkeeper makes a profit of 10%. If the cost of the smaller quantity be ₹ 14 per kg, then the cost per kg of the larger quantity is
<ul> <li>(a) ₹ 23</li> <li>(b) ₹ 24</li> <li>(c) ₹ 25</li> <li>(d) None of the above</li> </ul>
<b>48.</b> Find the unit digit in the product of $(268 \times 539 \times 826 \times 102)$
(a) 5 (b) 3
(c) 4 (d) 2
<b>49.</b> On dividing a certain number by 357, the remainder is 39. On dividing the same number by 17. What will be the remainder?
(a) 5 (b) 3
(c) 7 (d) 6
<b>50.</b> The average of first five multiple of 3 is
(a) 3 (b) 9
(c) 12 (d) 15





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